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(54) Title: TUMOR IMAGING COMPOUNDS

(57) Abstract: The invention provides novel amino acid compounds of use in detecting and evaluating brain and body tumors. These compounds combine the advantageous properties of α -aminoisobutyric acid (AIB) analogs namely, their rapid uptake and prolonged retention in tumors with the properties of halogen substituents, including certain useful halogen isotopes such as fluorine-18, iodine-123, iodine-124, iodine-125, iodine-131, bromine-75, bromine-76, bromine-77, bromine-82, astatine-210, astatine-211, and other astatine isotopes. In addition the compounds can be labeled with technetium and rhenium isotopes using known chelation complexes. The amino acid compounds disclosed herein have a high specificity for target sites when administered to a subject in vivo. Preferred amino acid compounds include [^{18}F] FAMP, ([^{18}F]5a) and [^{18}F]N-MeFAMP, ([^{18}F]5b). The invention further features pharmaceutical compositions comprised of an α -amino acid moiety attached to either a four, five or a six member carbon-chain ring. The labeled amino acid compounds are useful as imaging agents in detecting and/or monitoring tumors in a subject by Positron Emission Tomography (PET) and Single Photon Emission Computer Tomography (SPECT).